

REMARKS

Claims 1 through 15 are currently pending in the application.

This amendment is in response to the Office Action of March 24, 2003.

Applicants note the filing of an Information Disclosure Statement herein on April 15, 2003 and note that no copy of the PTO-1449 was returned with the outstanding Office Action. Applicants respectfully request that the information cited on the PTO-1449 be made of record herein.

Claims 1 through 9 and 11 through 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kinoshita (JP 58-90728).

Claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Deguchi (JP 62-18714) in view of Kinoshita (JP 58-90728).

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicants have amended the claimed invention to clearly distinguish over the cited prior art. Claims 1, 2, 4, 5 and 8 have been amended.

Applicants submit that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

With respect to the rejection of claims 1 through 9 and 11 through 15 under 35 U.S.C. § 102(b) as being anticipated by Kinoshita, Applicants respectfully presently amended claims 1, 5 and 8 are not anticipated under 35 U.S.C. § 102. In particular, Kinoshita does not describe an overlay target with the element having "a series of substantially vertically extending laterally continuous raised lines originating at said bottom surface of said trench, substantially all of said raised lines having surfaces which are substantially coplanar with [a] first surface." Support for the amendment "said raised lines having surfaces which are substantially coplanar with [a] first surface" can be found in the specification at paragraphs 0040 through 0042, and in Figures 15 through 18. From these sections, the following is clear. A resist is applied to a surface to be etched. The resist is then patterned and the surface is etched. Any portions of the surface which

remain unetched due to coverage by the resist are coplanar with the surface in which the target is being formed.

Kinoshita, in contrast to the presently claimed invention, describes an alignment mark on a semiconductor having a flat region which is between sections having a series of etched trenches which lay side-by-side. (See Figures 1, 2 and 5.) Each pair of adjacent trenches has associated with it a cusped section which is created along the line at which the trenches abut. Figures 2 and 3. As the cusped section has a semicircular cross-section, it is devoid of any surfaces which are coplanar with the surface in which the alignment mark is formed. Instead, the joined trenches are formed in an area that is intended to have no regular reflection. See the 11th and 12th full paragraphs of the Detailed Description section of Kinoshita (English translation from Japanese), where it indicates that regular reflection from the surface is eliminated by the trenches because of the "arc-shaped cross-sectional form." The paragraphs further indicate that adjacent flat sections do have regular reflection. Thus, the raised, cusped sections of Kinoshita are deliberately fabricated such that there are no planar sections at all, let alone planar sections which are coplanar with the surface in which the mark is formed. Because Kinoshita teaches cusped regions instead of planar regions, claims 1, 5 and 8 are not anticipated and thus allowable.

Applicants further submit that claims 2 through 4, 6, 7 and 9 through 15 are allowable as depending from allowable independent claims.

With regard to the rejection of claims 2 and 4, Applicants respectfully submit that the geometric shape referred to in the claims is described in the specification in Figures 5 and 6, as well as the associated text in paragraph 0030. The claim is directed at a shape which has edges formed by a continuous trench along the perimeter of the shape. Claims 2 and 4 have been amended to more clearly reflect this.

Applicants respectfully submit that the remaining arguments which are independently set forth with respect to claims 3, 5 through 9 and 11 through 15, which all refer to are met by Applicants' present amendment of claims 1, 5 and 8.

Applicants further submit that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure.


Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the presently claimed invention because neither the references nor knowledge available to one skilled in the art suggests modifying Deguchi with Kinoshita by allowing the vertical raised structures of Deguchi to remain connected into laterally extending, continuous raised lines which are topped with surfaces as the claims of the invention as presently amended require. Referring to Deguchi, the region 23 is a low reflectivity area. It provides contrast to areas of high reflectivity 24. The process of reducing reflectivity involves etching away the upper surface, ultimately filling the area with "ultrafine square-sectional conical projection groups" 25. See abbreviated translation of Deguchi. The goal of producing a high contrast by reducing reflectivity in the area dictates against leaving laterally extended portions of unetched surface area such as would be the result of the proposed suggested combination of the cited prior art in the Office Action. Thus, the references, when considered as a whole, cannot be seen as suggesting any combination thereof.

Furthermore, when modifying one piece of prior art with another to arrive at the conclusion that the combination is obvious, "the proposed modification cannot render the prior art unsatisfactory for its intended purpose." MPEP 2143.01. As set forth above, the modification of Deguchi with Kinoshita would greatly decrease the contrast between areas and thus impair, if not destroy the usefulness of Deguchi's invention. Based on the foregoing, Applicants respectfully submit that claims 8 and 10 are allowable.

In summary, Applicants submit that claims 1 through 15 are clearly allowable over the cited prior art.

Applicants request the allowance of claims 1 through 15 and the case passed for issue.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James R. Duzan". The signature is fluid and cursive, with a long, sweeping underline.

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